



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20231
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/529,778	07/17/2000	MARINUS MARIAS BOONE	BO41592	3723

466 7590 08/13/2002

YOUNG & THOMPSON
745 SOUTH 23RD STREET 2ND FLOOR
ARLINGTON, VA 22202

EXAMINER

NI, SUHAN

ART UNIT PAPER NUMBER

2643

DATE MAILED: 08/13/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

703-685-0573

Office Action Summary

Application No.

09/529,778

Applicant(s)

BOONE ET AL.

Examiner

Suhan Ni

Art Unit

2643

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 May 2002.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-11 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____. | 6) <input type="checkbox"/> Other: _____. |

DETAILED ACTION

1. This communication is responsive to the applicant's response filed 5/17/02.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter, which the applicant regards as his invention.

2. Claims 1-11 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Numerous indefiniteness in the claims and the examples are:

In claim 1, the word "means" (line 6) is preceded by the word(s) "deriving" in an attempt to use a "means" clause to recite a claim element as a means for performing a specified function. However, since no function is specified by the word(s) preceding "means," it is impossible to determine the equivalents of the element, as required by 35 U.S.C. 112, sixth paragraph. See *Ex parte Klumb*, 159 USPQ 694 (Bd. App. 1967).

In claim 1, the term "two array output signals from the output signals of the array of microphones" (lines 6-7) is indefinite because it is not clear why "two array output signals" just from one array of microphone. There is just one array of microphone in the claim so far.

In claim 1, regarding the term of "the array of microphones" in line 7, it is not clear how many "array of microphones" in the claim. Please note that numbers, such as 8-12, 26-36 carry no patentable weight in the claims.

In claim 1, the term "of the array" (line 9) is indefinite because it is not clear what it refers to. There are "an array of microphones" (line 3) and "two array output signals" (line 6) in the claim so far.

Art Unit: 2643

....

In claim 6, it recites the limitation "the outputs of the microphones" in line 5. There is insufficient antecedent basis for this limitation in the claim.

....

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) The invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) The invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

3. Based on the best understanding of the claim language with regarding the 112, 2nd paragraph rejection as mentioned above in paragraph 2 of this office action, claims 1-5 and 7-11 are rejected under 35 U.S.C. 102(b) as being anticipated by Zwicker et al. (US-4,773,095).

Regarding claim 1, Zwicker et al. disclose a hearing aid comprising: an array of microphones (M) having an electrical signal outputs (Fig. 2); and at least one transmission path (30, 32) for an ear (Fig. 3), wherein said electrical signal output is fed to said at least one transmission path for each ear (Figs. 2-3), and said array of microphones has two main sensitivity directions (Fig. 1).

Regarding claims 2-4, Zwicker et al. further disclose the hearing aid, wherein the array is mounted on a front and on an arm of a pair of spectacles (Fig. 1) as claimed.

Art Unit: 2643

Regarding claim 5, Zwicker et al. further disclose the hearing aid, further comprising: a summing device (16) for summing the electrical signal outputs; and a plurality of weighting factor device (13-15) for weighting each of microphones of said array (Fig. 2).

Regarding claim 7, Zwicker et al. further disclose the hearing aid, wherein the electrical signal outputs of the array is derived via a further weighting factor device (31, 33).

Regarding claims 8-11, Zwicker et al. further disclose the hearing aid, wherein the weighting factor device (13-15, 31, 33) is amplitude-adjustment device as claimed.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Based on the best understanding of the claim language with regarding the 112, 2nd paragraph rejection as mentioned above in paragraph 5 of this office action, claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Zwicker et al. (US-4,773,095) in view of Lehr et al. (US-5,793,875).

Regarding claims 6, Zwicker et al. do not clearly teach a series circuit of a number of summing devices and weighting factor devices as claimed. Lehr et al. disclose a directional hearing aid comprising: a microphone array (220-223); and a circuit (Fig. 11) including a plurality of summing device (300-304, 315) and weight factor device (310-314) as claimed to process the output signals from said array of microphones. Therefore, it would have been

Art Unit: 2643

obvious to one having ordinary skill in the art at the time the invention was made to be motivated to provide said circuit taught by Lehr for the hearing aid as an alternate choice, in order to provide a more effective directional hearing aid for a hearing compromised user.

Response to Amendment

5. Applicant's arguments dated 05/13/2000 have been fully considered, but they are not deemed to be persuasive.

The cited reference (US-4,773,095) does clearly show that a hearing aid comprising: an array of microphones (M) having an electrical signal outputs (Fig. 2); and at least one transmission path (30, 32) for an ear (Fig. 3), wherein said electrical signal output is fed to said at least one transmission path for each ear (Figs. 2-3), and said array of microphones has two main sensitivity directions (Fig. 1) as claimed. Furthermore, the newly amended claims still contain numerous indefiniteness, and the subject matters are not clearly claimed.

Regarding claim 1, the examiner respectively disagrees with the applicants' arguments (page 5-7). The cited prior art clearly shows two array output signals from the microphone output signals (Fig. 3), further transmitted to both ears of the user via two separate passes (30, 32).

Regarding claim 6, the applicants argue no motivation to combine the references. It is not necessary that the references actually suggest, expressly or in so many words the changes or improvements that applicants have made. The test for combining references is what the references as whole would have suggested to one of ordinary skilled in the art. **In re Sheckler, 168 USPQ 716 (CCPA 1971); In re Mlaughlin 170 USPQ 209 (CCPA 1971); In re Young 159 USPQ 715 (CCPA 1968).**

Conclusion

6. **THIS ACTION IS MADE FINAL.** See M.P.E.P. § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 C.F.R. § 1.136(a).

A SHORTENED STATUTORY PERIOD FOR RESPONSE TO THIS FINAL ACTION IS SET TO EXPIRE THREE MONTHS FROM THE DATE OF THIS ACTION. IN THE EVENT A FIRST RESPONSE IS FILED WITHIN TWO MONTHS OF THE MAILING DATE OF THIS FINAL ACTION AND THE ADVISORY ACTION IS NOT MAILED UNTIL AFTER THE END OF THE THREE-MONTH SHORTENED STATUTORY PERIOD, THEN THE SHORTENED STATUTORY PERIOD WILL EXPIRE ON THE DATE THE ADVISORY ACTION IS MAILED, AND ANY EXTENSION FEE PURSUANT TO 37 C.F.R. § 1.136(a) WILL BE CALCULATED FROM THE MAILING DATE OF THE ADVISORY ACTION. IN NO EVENT WILL THE STATUTORY PERIOD FOR RESPONSE EXPIRE LATER THAN SIX MONTHS FROM THE DATE OF THIS FINAL ACTION.

7. Any response to this final action should be mailed to:

**Commissioner of Patents and Trademarks
Washington, D.C. 20231**

Or faxed to:

(703) 308-9051, (for formal communications; please mark "EXPEDITED PROCEDURE"), or

(703) 305-9508, (for informal or draft communications, please label "PROPOSED" or "DRAFT")

Hand-delivered responses should be brought to:

**Receptionist, Sixth Floor,
Crystal Park II,
2121 Crystal Drive,
Arlington, Virginia 22202**

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Suhan Ni** whose telephone number is **(703)-308-9322**, and the number for fax machine is **(703)-305-9508**. The examiner can normally be reached on Monday


Application/Control Number: 09/529,778

Page 7

Art Unit: 2643

through Thursday from 9:00 am to 7:30 pm. If it is necessary, the examiner's supervisor, **Curtis Kuntz**, can be reached at **(703) 305-4708**.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the group receptionist whose telephone number is **(703) 305-3900**.


SINH TRAN
PRIMARY EXAMINER

SN

August 11, 2002